

REMARKS

INTRODUCTION

Claims 3-4, 7-8, 11-12, 15-16, 18, 20, 22, 24, 26, 28, 30, 32, 35-36, 38, 40, 42 and 44 were previously pending and under consideration.

Claims 45 and 46 are added herein.

Therefore, claims 3-4, 7-8, 11-12, 15-16, 18, 20, 22, 24, 26, 28, 30, 32, 35-36, 38, 40, 42, and 44-46 are now pending and under consideration.

Claims 3, 7, 11, 15, 18, 20, 22, 24, 26, 28, 30, 32, 35, 38, 40, 42 and 44 are amended herein.

No new matter is being presented, and approval and entry are respectfully requested.

REJECTIONS UNDER 35 USC §§ 102 AND/OR 103

In the Office Action, the claims were rejected based primarily on Adachi. This rejection is traversed and reconsideration is requested.

Claim 3 recites "a first speed control unit that automatically controls respective time intervals to be automatically successively shorter in accordance with successive deletions of the first elements". For example, if there have been X number of successive deletion intervals, than the intervals are automatically shortened.

An aspect of the invention relates to automatically increasing the speed of deletion/thinning to mimic the appearance of suction of a fluid. For example, in the prior art, if a thinning process of 25% removal is iteratively applied to an image originally having 200 pixels, then for each unit of time (e.g. 1 millisecond intervals), the following progression might occur:

$$1: 200 - 50 = 150,$$

$$2: 150 - 37.5 = 112.5,$$

$$3: 112.5 - 28.5 = 84,$$

4: $84 - 21 = 62$, etc.

As can be seen, pixel removal decelerates (50, 37, 28, 21, ...) over successive iterations of 1 milliseconds, for example. That is, the number of pixels per iteration or unit of time decreases. The effect is that pixels disappear rapidly at the beginning and disappear more slowly at the end.

However, when a fluid is sucked up, as by a straw, if a constant rate of suction is assumed, then the visible fluid (surface area) decreases at an approximately constant rate (e.g. 1 square centimeter per second), or at least it does not dramatically decelerate as with the progression above. Increasing the speed or shortening the interval time compensates for the decreasing rate of pixel removal thereby giving an appearance of smoothing out the rate of pixel removal and giving a more gradual visual effect that more closely approximates the appearance of a fluid being suctioned away.

The rejection cites a feature in Adachi where stylus pressure controls the speed of the image transformation process (col. 10, lines 27-48). However, the present specification discusses a procedure where the speed increase is automatic in accordance with the degree of deletion. See page 16, lines 29-35 of the specification. The term "automatic" indicates "acting or done spontaneously or unconsciously ... done or produced as if by machine : MECHANICAL <the answers were automatic> ... having a self-acting or self-regulating mechanism" (Merriam Webster Online Dictionary). In Adachi, for one removal/explosion of an image, iteration speed is always constant and the constant speed can be manually initialized.

Regarding constant speed in Adachi, see Figure 5, where iterations over "i" are not controlled for time but rather are constant by default. No time control is shown in Figure 5.

Regarding manual control of initial speed, Adachi discusses manual control via stylus pressure (col. 10, lines 27-48). However, this is a manual not automatic process. Therefore, the speed in Adachi is not automatically controlled during a transformation to be "successively automatically shorter in accordance with successive deletions of the first elements".

Furthermore, Adachi has no disclosure of changing or controlling thinning speed during thinning, whether automatic or manual. Adachi has almost no disclosure how the suggested stylus control of speed is implemented. Where it is discussed, it is made clear that the stylus

pressure is initially detected one time before the deletion starts. The suggested "variable" speed of Adachi is only a programming type variable that holds one detected pressure level. This level is an initial level or value of the variable before the image is erased or exploded. Only one level or value is used for any given deletion. Column 14, lines 62-67 state that a "detecting section detects a level variable indicating ... transformation speed" and the "image is displayed or transformation-processed according to the detected level variable" (emphasis added). In other words, a level is detected and put in a variable, and then the one detected level is used for display/transformation of an image. There is no disclosure of repeated redetection during a transformation. There is no discussion or suggestion of detecting or changing the level during display/transformation. Therefore, not only does Adachi not have automatic interval speed or time adjustment, Adachi also has no adjustment in interval speed (either automatic or manual) during the display/transformation-processing.

See also column 16, lines 1-2; "executing said transformation processing on said targeted image according to the detected level variable". See also column 6, lines 45-50, where "section 40 processes the specification [of the image] so as to display ... according to the level variable indicating the speed". At or before the time of the specification of the area/image, the level is detected. Finally, see column 6, line 65 to column 7 line 5, where, when the transformation processing is initiated, and "when the level variable is instructed to be specified, the graphic data processing means 22 executes transformation processing according to the specified level variable". Clearly the "speed ... can be varied" at column 10 (lines 44-46) refers to variation between different transformations instructed by the user (such as sucking at one speed and exploding at another speed), not variation of speed during one transformation.

Finally, it is respectfully submitted that to teach control of interval time or speed during a deletion, Adachi would have to have some detection of stylus pressure during the loops in Figure 5. However, Adachi does not have this teaching. Instead, Adachi states that the level feature is to give a sensation of processing a graphic item "at high speed" (column 10, line 49). It is respectfully submitted that the exploding and sucking in Adachi occur at high speed and therefore it would probably be imperceptible and pointless to vary interval times or speeds during one deletion or restoration of a graphic item.

Withdrawal of the rejection is respectfully requested.

DEPENDENT CLAIMS

The dependent claims are deemed patentable due at least to their dependence from allowable independent claims. These claims are also patentable due to their recitation of independently distinguishing features. For example, claim 4 recites "a completion indicating unit that displays a predetermined image at a specified position on the screen when all the second elements of data have been deleted as first elements of data". This feature is not taught or suggested by the prior art. Withdrawal of the rejection of the dependent claims is respectfully requested.

NEW CLAIMS

New claims 45 and 46 have been added to clarify an aspect of the present invention in which a more natural approximation of liquid being sucked up results because thinning rate increases to compensate for a rate or ratio of pixel removal that removes fewer pixels with successive iterations.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

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By: James T. Strom
James T. Strom
Registration No. 48,702

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501